

# Notice of Allowability

Application No.

10/050,533

Examiner

Chat C. Do

Applicant(s)

GRAZIANO ET AL.

Art Unit

2193

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/26/2005.
2. ☒ The allowed claim(s) is/are 11,13,15,17,21,22,28 and 29.
3. ☒ The drawings filed on 18 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)   |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>attached herein</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>03/29/05</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                               | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                                |
|  | 9. <input type="checkbox"/> Other _____.  |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Yisun Song on 07/06/2005.

The application has been amended as follows in independent claim 15 to avoid non-statutory claim:

15. (Currently Amended) A computer-implemented method for implementing a polynomial for estimating a fractional part of a logarithm of a number, the method comprising the steps of: receiving an estimate of a fractional part; generating a function of the estimate, wherein the function corresponds to an order of the polynomial; multiplying the estimate of a fractional part and a second polynomial coefficient, wherein a first output is generated; multiplying the function of the estimate and a third polynomial coefficient, wherein a second output is generated; adding the first output of the first constant multiplier and the second output of the second constant multiplier, wherein a first sum is generated; and adding the first sum and a first polynomial coefficient, wherein an improved estimate of the fractional part is generated; wherein the order of the polynomial is greater than two.

2. Claims 11, 13, 15, 17, 21-22, and 28-29 are allowed.
3. Claims 1-10, 12, 14, 16, 18-20, and 23-27 are cancelled without prejudice.

#### **REASONS FOR ALLOWANCE**

4. The following is an examiner's statement of reasons for allowance:

The prior art of records fails to disclose or render an obviousness of a method and a digital circuit for implementing a polynomial for estimating a fractional part of a logarithm of a number comprising: a function circuit for receiving an estimate of a fractional part and for generating a function of the estimate, a first and second constant multipliers for multiplying and generating first and second output respectively, a first adder for adding the first output of the first constant multiplier and the second output of the second constant multiplier and for generating a first sum; and second adders for adding the first sum and a first polynomial coefficient and for generating an improved estimate of the fractional part; wherein the order of the polynomial is greater than two as cited in independent claims 11 and 15.

The closest found prior art is Allred (U.S. 6,289,367). Allred discloses a method and a digital circuit for implementing a polynomial for estimating a fractional part of a logarithm of a number comprising: a function circuit, a first and second constant multipliers, first and second adders as cited above. However, Allred fails to disclose the polynomial in the circuit is greater than two.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on 7:00AM to 5:00PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C Do  
Examiner  
Art Unit 2193

July 6, 2005

  
**KAKALI CHAKI**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**